NATIONAL LIBRARY OF MEDICINE
NEWS

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Extramural Programs Reorganized

Dr. Martin Cummings, NLM Director, recently announced the reorganization of NLM's Extramural Programs to improve and strengthen the administration of the grant programs for biomedical communications. The new organization includes: (1) Division of Biomedical Information Support, (2) International Programs Division, (3) Office of Program Planning and Evaluation, and (4) the Administrative Office. The Research, Training, and Publications Division and the Resources Division are abolished and their functions assigned to the new Division of Biomedical Information Support.

The organization of the Office of the Associate Director (Dr. Ernest Allen) remains the same, with Mr. Arthur Broering appointed its Acting Deputy Director. Both the newly established Office of Program Planning and Evaluation and the Administrative Office, the latter headed by Mrs. Louise Gamage, serve the Office of the Associate Director in a staff capacity.

The Biomedical Information Support Division's major task will be to provide for the review and evaluation of applications for grant support from public and private not-for-profit institutions seeking to improve biomedical communications. The areas of support include research, development, and demonstration projects, as well as resource grants and regional medical library grants. Dr. Roger W. Dahlen is chief of this new division.

New regional geographic assignments have been made for the Program Officers of the Biomedical Information Support Division, as follows:

Mr. Peter A. Clepper -	Region I - New England Region III - Mid-Eastern Region IX - South Central
Mrs. Doris Doran -	Region II - New York Region X - Pacific Northwest Region XI - Pacific Southwest
Mrs. Frances E. Johnson -	Region V - East Central Region VII - Mid-West

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NEWS

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LHNCBC Computer Assisted Instruction Network in Biomedicine

What do Fort Worth Osteopathic Hospital, the National Board of Medical Examiners, and Michigan State University have in common? They are all users of the Lister Hill Center Computer Assisted Instruction (CAI) Experimental Network, as are 52 other medical institutions.

The CAI experiment at the National Library of Medicine began operation in July 1972 with the connection of the Massachusetts General Hospital (MGH) computer center to the Tymshare network. (This is the same network which provides the communications link for NLM's MEDLINE service.) Since that time, two additional computer centers, at Ohio State University College of Medicine (OSU), Columbus, and University of Illinois Medical Center (UIMC), Chicago, have been connected to the network.

The three centers offer a variety of course materials, including patient simulations, multiple-choice test items, and training programs for paramedical personnel. (See *News*, August 1972.)

Currently there are 55 users of the network. Thirty-nine are medical schools, nine are hospitals, and seven represent other biomedical organizations. Forty-five have trial user status, and ten are operational users. Trial users may use the CAI materials for a period of two months (subject to renewal) to demonstrate the system and its contents to faculty and students. Operational users have extended access to the system in return for contributions to the data base and evaluations of [its] content.

Use of the system divides into three major categories; demonstration to faculty and students; teaching; and writing new units of instruction. Most institutions are using the system for more than one purpose, as indicated below:

Demonstration = 31 (usually the primary purpose when listed)

Teaching = 32

Writing = 8

As of April 1973, a total of 8,708 hours have been logged on the CAI Experimental Network -- 6,195 on MGH (the first available system), 1,398 on OSU, and

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1,115 on UIMC (operational since January 1973). These hours represent more than 17,500 encounters, with sessions averaging about one-half hour each. Because students frequently use the programs in groups of two or three, this statistic reflects about one-half to one-third the number of actual student interactions. A side-effect of this use pattern is the noise made by student groups discussing the merits of each case. Thus, although the terminals are usually located in libraries, moving them from the reading areas may help preserve the serenity of other patrons.

Course materials offered by the three centers apparently appeal to a wide variety of medical and paramedical personnel, both in and out of a formal educational setting. The user population averages 70% medical students, split evenly between those in their first two years and those in their last two years. The remaining users include nurses, auxiliary medical personnel, house staff, fellows, physicians, and nonmedical personnel.

Access to the computer centers is restricted by the limited number of ports LHNCBC has leased from each of the contractors. The CAI Experiment is rapidly reaching saturation, and all the ports are frequently busy during the late morning, afternoon, and early evening. Trial users are learning to change their normal use patterns to take advantage of the less popular times. This shift is possible because all three systems are accessible more than 20 hours per day, seven days per week. Hours of terminal availability becomes the limiting factor to use of the system.

LHNCBC is preparing to sponsor its first operational users' meeting on May 18, 1973. At this time, the goals of the experiment will be reexamined in light of users' experiences. The Library will begin to get the data to answer some of the original questions: Is networking an appropriate means for the inter-institutional sharing of resources? Can CAI materials be successfully transferred from one campus to another? What are the costs to participating institutions in terms of faculty involvement for the generation and evaluation of course materials? Can the network design become economically viable? Future planning is dependent on answers to these questions.

For further information, please contact: Dr. Harold Wooster, Lister Hill National Center for Biomedical Communications, National Library of Medicine, 8600 Rockville Pike, Bethesda, Maryland 20014.

Metamorphosis: TOXICON ⟶ TOXLINE

The Library's Toxicology Information Program announces that its TOXICON service (*News*, May 1972) has been renamed TOXLINE. The change was necessitated when NLM staff learned of prior claims to the earlier name. A Patent Office search indicates clear sailing for NLM's TOXLINE.

Coincidental with the new designation, the Toxicology Information Program is planning to build a new on-line data retrieval system which will eventually be

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(Extramural Programs, from Page 1)

Mr. Richard T. West - Region IV - Mid-Atlantic
Region VI - Southeastern
Region VIII - Mid-Continental

The Office of Program Planning and Evaluation, headed by Mrs. Nina W. Matheson, will direct the development and maintenance of Extramural Programs data information systems. As a primary source for fiscal and programmatic data, it will coordinate programs and planning in relation to NLM objectives.

The International Programs Division, directed by Dr. Jeanne Brand, will continue to administer the NLM Special Foreign Currency Program which supports the international translation and publication activities through P. L. 480 agreements, grants, and contracts. In addition, the International Programs Division has been assigned responsibility for the NLM publication grant program, which supports the preparation and publication in the United States of translations, abstracts, monographic studies in the history of medicine, guides, bibliographies, and other materials.

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part of the TOXLINE service and, therefore, has been named the TOXLINE Data Bank (TDB).

This computerized file will be constructed around compounds and will contain data fields for *facts* about their chemical, physical, and biological properties. In the biological area, fields are being established for such elements as LD_{50}; toxicity ratings, including threshold limit values; maximum acceptable daily intake; animal toxicity; carcinogenesis; therapy of poisoning; and precautions. The data bank will also include "economic" fields such as volume of production and manufacturers' uses; safety facts such as inflammability, explosion hazards, and environmental exposure limits; and environmental facts such as persistence, bioaccumulation, methods of disposal, etc.

Hazardous compounds to which sizable population groups are exposed will be selected for incorporation into the TDB. Thus, it will include drugs, pesticides, and other environmental pollutants; hazardous household and industrial compounds, etc. Evaluated data on these compounds will be extracted from recognized secondary sources, which, wherever possible, will be clearly identified. In addition to specific facts, descriptive statements also will be included, such as "a unique polyneuritis with flaccid paralysis (but not sensory disturbances) first appearing many days after the exposure."

The design of the TDB relies heavily on existing and "almost ready" capabilities of the STIMS/RECON software packages that are used to operate TOXLINE. In particular, the proximity search feature--a major addition that NLM made to RECON--will get heavy usage in the TDB, because logically related facts (e.g., LD_{50} value, species, and route) will be linked by placing them in the same "TOXLINE sentence"--which could incorporate many English sentences.

An experimental file of some 12 compounds with associated facts has been made available to NLM staff for testing. After some necessary design changes have

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Guide to CAI in Health Sciences

A Guide to Computer-Assisted Instruction in the Health Sciences. Sold by the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22151. Order Number: PB 214 351. U.S. price: $9.00 ($0.95 microfiche); non-U.S.: $11.50 ($2.45 microfiche).

This publication, supported in part by NLM's Lister Hill Center, is the first comprehensive index to computer-assisted instruction in the health sciences. Coverage includes both existing and planned CAI programs in over two hundred institutions. The guide lists 362 CAI courses in medicine, nursing, dentistry, pharmacology, and other health-related subjects. The volume is organized into four sections: (1) Courses, listed by subject; (2) Institution Reports, by subject; (3) Bibliography, alphabetically by author; and (4) Indexes -- individual, institution, subject, and technical (computer hardware and computer software). This will be useful to those interested in applications of computerized teaching methods in schools of medicine, nursing, dentistry, pharmacy, etc., and to those educators who may need to evaluate CAI courses and negotiate for the exchange of potentially useful course material.

The guide was compiled by Christopher R. Brigham and Richard J. Cross, M.D., of the College of Medicine and Dentistry of New Jersey, Rutgers Medical School; and Martin Kamp, M.D., of the University of California at San Francisco.

New Literature Searches

Single copies of the bibliographies listed below are available (without charge) from the Literature Search Program, Reference Section, National Library of Medicine, 8600 Rockville Pike, Bethesda, Maryland 20014. *The name and address of the requestor, typed on a gummed label, must accompany all requests (no return postage necessary). Order by Literature Search number in addition to title.*

L. S. No.	Title
73-2	Day care for the elderly January 1969-December 1972. 49 citations
73-3	Air pollution effects, with emphasis on hypersensitivity January 1970-February 1973. 546 English-language citations
73-4	Human experimentation January 1969-January 1973. 220 citations
73-5	Health maintenance organizations January 1969-January 1973. 229 English-language citations
73-6	Transplantation - ethical, legal, and religious aspects January 1969-January 1973. 201 English-language citations
73-7	Health indices in the United States January 1969-January 1973. 222 English-language citations.

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been implemented, records for another 50 to 100 compounds will be entered into the file for additional testing. When the system has shaken down sufficiently, it is planned to enter data on 800-1,000 compounds during fiscal year 1974. TOXLINE users will obtain access to this file after a substantial number of these compounds have been entered and after software changes have been made. Hopefully, such experimental use by the TOXLINE user community will be possible early in calendar year 1974.

Data banks with categories similar to those selected for the TDB are planned by several national and international organizations. Since the compounds of concern to governments in most industrial countries do not differ widely from country to country, it makes a great deal of sense to try to share the building of such computerized files. This will not only save considerable sums of money, but also hasten the wide accessibility of such files. Proposals for data exchange experiments were explored at an Ad Hoc Meeting of Directors of National Toxicology Information Centers, held in Paris on March 12-13, 1973, under the auspices of the Organization for Economic Cooperation and Development (OECD). The United States was represented at this meeting by Dr. Henry Kissman, NLM's Associate Director for Specialized Information Services. The conference recommended, for consideration by member governments, the creation of an international network for the exchange of toxicology data. Bilateral experiments are now being planned among centers that participated in the OECD meeting.

The principle of data exchange is also being explored on a national level here in the United States. Thus, NLM's Toxicology Information Program is working with the Environmental Mutagen Information Center (EMIC) at the Oak Ridge National Laboratory. EMIC is sponsored by the National Cancer Institute and the National Institute of Environmental Health Sciences, NIH. Under the plan being discussed, the 1,200 records which now make up the EMIC data files would be incorporated in the "mutagenesis" field of the TOXLINE Data Bank. This would make the valuable EMIC data file accessible for on-line search, not only to the sponsoring agencies, but also to all other organizations having access to TOXLINE.

Much planning is needed before the TDB will be an operational system, but its broad outlines and the direction for a future course of action have now been drawn. NLM staff associated with this project believe that the on-line, "conversational" search of data files with the concomitant capability to associate, at will, data elements from wholly disparate fields (e.g., use class, production volume, environmental behavior, biological effects, chemistry) promises to be a very powerful new *fact retrieval tool* for the entire biomedical user community.

Drexel Library School to Honor Dr. Rogers

Dr. Frank Bradway Rogers, librarian of the University of Colorado Medical Center and Director of the National Library of Medicine from 1949 to 1963, will be the recipient of the Distinguished Achievement Award presented by the Drexel University Graduate School of Library Science and the Library School Alumni Association.

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Dr. Rogers has been a physician, historian, teacher and innovator. As NLM director, he encouraged innovative research programs and laid the groundwork for the Library's present highly automated information retrieval system for medical literature.

Presentation will be made at the 15th Annual Award Dinner, May 4, at the College of Physicians in Philadelphia.

Previous award recipients include John Dos Passos, Harry Golden, Catherine Drinker Bowen, L. Quincy Mumford, and Norman Cousins.

New MeSH Terms (1963-1973)

Cumulated List of New Medical Subject Headings, 1963-1973. Sold by the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22151. U.S. price: $3.00 ($0.95 microfiche); non-U.S.: $5.50 ($2.45 microfiche). Order Number: PB 219-054.

The new terms are first presented in alphabetic order, with the year of their introduction into MeSH and the subject heading or headings under which the concept was indexed in previous years. In addition, a listing by year of introduction into the vocabulary is provided. Finally, there is a listing of the previously indexed terms and the new terms which either replaced them or provided more specific aspects in subsequent years.

This publication should provide a valuable, single reference source for users of *Cumulated Index Medicus*, and for the librarians and scientists who are performing retrospective searches of the MEDLINE data base. Moreover, for those medical libraries using *Medical Subject Headings* as the authority for their subject catalog, this list will provide ready access to the terms by year in order to update the card catalog and to prepare cross-references useful to those consulting it.

GPO to Reprint 1971 CIM

The Superintendent of Documents has announced that it is in the process of reprinting the 1971 edition of *Cumulated Index Medicus* (Vol. 12), which went out of print in January. (It was previously believed that the Johnson Reprint Corporation would reprint the 1971 CIM.) The reprinted volumes are scheduled to appear about mid-July 1973. The price is $101.00 ($109.25 foreign), or $93.00 if purchased "over the counter" at one of GPO's book stores.*

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* The main store is in Washington, D. C. (phone: 202-541-2091), with regional stores in the following cities: Atlanta (404-526-6946); Birmingham, AL (205-325-6056); Boston (617-223-6071); Canton, OH (216-455-4354); Chicago (312-353-5133); Dallas (214-749-1541); Denver (303-837-3964); Detroit (313-226-7816); Kansas City, MO (816-374-2160); Los Angeles (213-688-5841); New York (212-264-3825); Philadelphia (215-597-0677); and San Francisco (415-556-6657).

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Orders are now being accepted by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402. Be sure to include full remittance with the order, as well as the following specific identifying information: CUMULATED INDEX MEDICUS, Volume 12, 1971, GPO Catalog Number HE 20.3612/3: 12, and GPO Stock Number S/N 1752-0132.

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